

REMARKS

Claims 1-16 remain pending after response.

Claim Amendments

By this amendment, non-elected claims 17-18 are cancelled. Claim 14 is amended in a manner consistent with that suggested by the Examiner. No new matter is added by this amendment.

Entry and Consideration of Amendment

This amendment should be entered and considered for the reasons that (1) claim 14 is amended at the request of the Examiner, and (2) non-elected claims 17-18 are cancelled at the request of the Examiner. Further, while applicants present herewith a Declaration under 37 CFR 1.132 to rebut the position of the Examiner, it was confirmed by the Examiner during the interview that the submission of such a Declaration would assist in resolving outstanding issues.

Restriction Requirement

Applicants acknowledge the indication of finality of the restriction requirement. Applicants also note the Examiner's indication that, while claims 13-16 could be rejoined, claims 17-18 cannot. The Examiner accordingly requests that claims 17-18 be cancelled. As noted above, claims 17-18 are cancelled.

Interview with Examiner

Applicants thank the Examiner for the courtesy extended toward their representative during the interview of March 13, 2006. During the interview, those distinctions that exist between the

claimed invention and the cited prior art were discussed. Applicants also presented to the Examiner several tables which confirm the difference between cumulative *particle size* and cumulative *volume distribution*. In accordance with the suggestion of the Examiner, a Declaration under 37 CFR 1.132 is submitted herewith placing the noted tables in verified form.

Claim Rejections – 35 USC § 103(a)

The Examiner has set forth individual rejections of claims 7-12 under the provisions of 35 USC 103(a) over the following references **Koichi et al ‘175** (US 6,551,175), **Oshima ‘789** (US 2002/0194789) and **Ota et al ‘711** (US 2003/0110711). Reconsideration and withdrawal of each of these separate rejections under 35 USC 103(a) is respectfully requested based on the following discussion.

Legal Standard for Determining Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicants accordingly submit that the Examiner has failed to present a *prima facie* case of obviousness.

Distinctions Over the Cited Art

Oshima '789

The cited Oshima '789 reference has a publication date of December 26, 2002, and is assigned to Kao Corporation, which is also the assignee of the present invention. Notably, the invention recited in the instant claims and the invention of the cited Oshima '789 reference had the same assignee (Kao Corporation) *at the time the respective inventions were made*. The Oshima '789 reference is accordingly not citable against the instant claims as of its US filing date (April 24, 2002), due to the safe harbor provisions of 35 USC 103(c). It is only citable as of its December 26, 2002 publication date.

The December 26, 2002 publication date of the Oshima '789 reference is the same date as applicant's priority date under 35 USC §119 to each of JP 2002-377390 and/or JP 2002-377321.

Accordingly based on the previous submission of the verified English translations of JP 2002-377390 and JP 2002-377321 (which provide full 35 USC 112, first paragraph support for the invention now being claimed), it is submitted that the cited Oshima '789 reference has been effectively antedated for all that it teaches and discloses.

The rejection is thus without basis and should be withdrawn.

Koichi et al '175

The cited Koichi et al '175 reference defines the particle size distribution of the abrasive therein merely by a ratio of D50 to D90, so that the specific particle size distribution defined in the present invention is neither disclosed nor suggested therein.

Further, in the cited Koichi et al '175 reference, it is described that a favorable D10 value is 5-100 nm, and an especially favorable D10 value is 40-60 nm (Embodiment 1 at column 4, lines 18-25), and that a favorable percentage of particles having a particle size of 40 nm or less is 3% or less (Embodiment 2 at column 5, lines 27-33). Supporting these descriptions, in Examples I-1 to I-5 of the

cited reference, an abrasive is used, having a particle size distribution wherein D10 is 45 nm or more (e.g., see Table 2, starting at column 10, line 57).

It can be reasonably presumed that the polishing compositions in the examples of the cited Koichi et al '175 reference would not satisfy the particle distribution of the present invention. In the cited reference, the particle size distribution is defined on a number basis so that it cannot be directly compared with the particle size distribution in the present invention defined on a volume basis. Applicants submit a Declaration under 37 CFR 1.132 (discussed below) in support of this assertion.

As noted above, in the cited Koichi et al '175 reference, it is favorable that the ratio of particles having a particle size of 40 nm or less is low. The feature of the cited reference is opposite to the feature of the present invention which requires 10-70 volume % of polishing particles having a particle size of 5-40 nm. Accordingly, the present invention is not obvious over the cited Koichi et al '175 reference.

Further, the polishing composition of the present invention having the specific particle size distribution recited in the claims exhibits superior effects not only with respect to reducing micro pits, but also in suppressing carrier squeals. Such advantages are neither taught nor appreciated by the reference.

Ota et al '711

As described in the attached Declaration under 37 CFR 1.132 (discussed below), particle size distribution on a volume basis cannot be determined by (or correlated to) particle size distribution based on number-base in a particle group where the particle size for a portion of the particles is not known. The reference discloses a combination of monomodal abrasives such that there is an unknown portion in the particle distribution. Accordingly, the particle size distribution of the

claimed invention cannot be directly compared with that of Ota et al where the particle size for a portion of the particles is unknown.

Further, the claimed invention provides that small silica particles (having a particle size of 5 – 40 nm), intermediate size silica particles (having a particle size of 40-80 nm), and large size silica particles (having a particle size of 80-120 nm) are present in a specific ratio with respect to one another.

By contrast, in Exhibits A and B attached, in the four embodiments disclosed by Ota et al, both of Da and Db (Da' and Db') are not present. Accordingly, the polishing composition containing intermediate size silica particles (particle size of 40-80 nm), and large size silica particles (particle size of 80-120 nm) in the amounts defined by applicants' particle size distribution (i)-(iii), especially the polishing composition containing intermediate size silica particles (particle size of 45-75 nm) and large size silica particles (particle size of 90-110nm) in the amounts defined by particle size distribution (a)-(c), is not encompassed within the scope of the teachings of Ota et al.

Further, the polishing compositions satisfying the particle size distribution defined in the Ota et al '711 reference are disclosed in the specification of the instant application as Comparative Examples II -5 to II-9. These comparative examples in the instant application correspond to the examples of the cited Ota et al '711 reference as indicated in the below table.

Examples of Ota et al. (US 2003/0110711)	α or β	γ	δ	ϵ , η , or θ	ξ
Comp. Example of the present invention	II-5	II-6	II-7	II-8	II-9

As shown in Table 4 of the instant application (see page 43), Examples II-1 to II-4 satisfying the requirement of the present invention show remarkable effects in reducing micropits in comparison with Comparative Examples II-5 to II-9. That is, the present invention exhibits excellent effects which cannot be expected from the teachings of the cited Ota et al '711 reference.

Based on the above considerations, it is submitted that no motivation or teaching is found in either of Koichi et al '175 or Ota et al '711 that would allow one of ordinary skill in the art arrive at the instant invention as asserted by the Examiner. Absent such motivation in the cited art the outstanding rejections cannot be sustained and should be withdrawn.

Declaration under 37 CFR 1.132

In support of applicants' position that the cited prior art fails to disclose or suggest the claimed invention, applicants submit herewith a Declaration under 37 CFR 1.132 which confirms those distinctions that exist between the cited prior art and the claimed invention from the standpoint of defining particle distribution in terms of volume-based or number-based. The Declaration confirms at page 3 that "It can be seen from the above that the relationship between the cumulative particle size distribution on number-base and the cumulative particle size distribution on volume-base changes dramatically due to a difference in particle sizes of a part of the entire particles." The Declaration also states at page 4 that "In other words, when particle sizes of the entire particles are partially unknown, the particle size distribution on volume-base cannot be determined according to a partial disclosure of the particle size distribution on number-base."

In other words, it is not possible to extrapolate from the limited teachings of the prior art to arrive at the claimed invention having specific ratios of volume distribution.

The showing of the Declaration under 37 CFR 1.132 thus rebuts any view of the Examiner that applicants' claimed volume distribution limitation is inherently disclosed or suggested by the number-based or particle-size based particle distributions of the cited prior art.

The application is accordingly believed to be directed to patentable subject matter, and an early indication of same earnestly is solicited.

Should the Examiner have any questions concerning the present reply, he is respectfully requested to contact the undersigned at the telephone number provided, in order to expedite matters relating to the prosecution of this application.

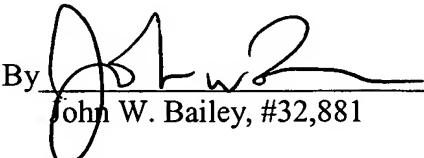
A check in the amount of \$120.00 is attached hereto as payment for the one month extension of time.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated:

Respectfully submitted,

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By 
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Enclosures:

Declaration under 37 CFR 1.132
Exhibits A and B